

A city fire chief suggests installation of automatic sprinklers in skyscrapers

San Francisco's new fire chief last week went on record in favor of fire sprinklers throughout high-rise buildings.

Speaking to a record turnout of the San Francisco Building Industry Conference Board, Chief Keith Calden described automatic sprinkler systems as "one of the most effective and most successful methods of automatic fire extinguishment today."

Because of the recent fire on the 35th floor of the 52-story Bank of America Building (ENR 11/26/70 p. 9), the board's meeting drew its largest crowd.

Calden also said, "To further guarantee safety of building occupants and to guard against equipment failure, we recommend an automatic sprinkler installation modified to include a dual riser system."

Calden says that dual, widely separated risers should feed sprinklers and hose reels on every floor of a building. An excess-flow valve connecting the risers at the top would allow one to function if the other failed. One riser would feed sprinklers on one floor, hoses on the next, sprinklers on the third, and so on. Where it fed sprinklers on a given floor, the other riser would feed hoses on the same floor. If the sprinklers failed on that floor, hoses could still be used against the fire. And sprinklers above and below the fire floor would still operate.

Smoke-barrier doors should close automatically around elevator lobbies on each of a building's floors after detection devices trigger them. The action would keep smoke and hot gases from moving through a building's elevator shafts, and would protect elevator passengers. Calden notes that "elevators are not considered as emergency exits, but in practice they are the most used means of egress from a building, even under emergency conditions." Firemen use them to get near a fire floor, too.

Pressurized shafts needed. Enclosed stairs should have a mechanically induced air pressure differential between the stair shaft and the vestibules leading into it. Calden terms standard, core-type smoke towers for stairs "costly and wasteful of space," and says, "they have never been tested under controlled fire tests."

Stairway doors, ordinarily locked from the outside for security, should be unlockable automatically from a central point, Calden says.

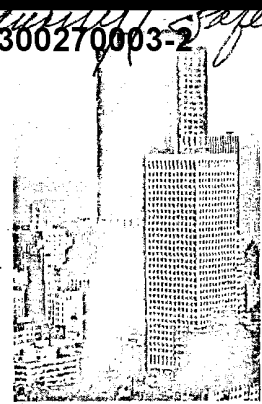
Smoke detectors should cause air conditioning systems to dump all air to the outside of a building through protected shafts. The detectors should also activate shutters in the system to prevent smoke from entering areas not involved in the fire, he notes.

Mechanically operated sliding windows or panels should be installed in high-rise buildings so firemen can open them to provide cross-ventilation without endangering anyone on the street below by breaking glass, he suggests.

Calden says cross-ventilation is important on a fire-floor because it allows the exhausting of heat and smoke.

Window-breaking dangers. Breaking windows can delay fire-fighting, Calden says. During the smoky Bank of America fire, firemen waited 20 minutes to break glass while police cleared spectators from the streets below.

Calden also called on wire manufacturers to study the possibility of "reducing the production of smoke and toxic fumes" from burning insulation.



Fire hit taller of the two.

Calden says his department is ready to pass its thoughts about high-rise building fires to designers who want them. He points out that the department has no technical expertise in construction; designers themselves must determine how to implement hazard-reducing ideas. But department officials want "to assist in building life safety into buildings while they are still on the drawing boards," he says.

Calden also notes that "fire in high-rise buildings is not caused by construction. It's caused by contents and coverings."

Illinois wins industrial pollution suit

Illinois Attorney General William Scott, who has been filing antipollution suits ever since he took office about two years ago, last week won his first significant court victory. Cook County Circuit Court Judge Walter P. Dahl ordered U.S. Steel Corp. to halt all pollution from its South Works plant in Chicago by Oct. 31, 1975.

Scott hailed the decision as "the most significant court order in the history of the legal battle to halt pollution. One of the oldest and largest plants in the nation will now be one of the cleanest." The order follows six weeks of closed door negotiation in Dahl's chambers by Scott, U.S. Steel and the Metropolitan Sanitary District of Greater Chicago (MSD). MSD was involved along with Scott because it too had filed suit against U.S. Steel and the two cases had been joined by Dahl (ENR 9/25/69 p. 19).

Under the agreement, 95% of the plant effluent will be handled within the plant itself, and the rest will be shipped to MSD. U.S. Steel will pay a surcharge for the effluent it sends to the district.

The order calls for four stages to end

pollution from the plant by Oct. 31, 1975.

U.S. Steel midwestern vice president Edward C. Logelin declined to comment on the cost of the project, but Scott estimates that it will run from \$8 million to \$12 million. Logelin emphasizes that the solution was specific to the company's South Works, and turned away questions about a possible similar closed system at other plants around the country.

The order represents Scott's first important victory in his effort to end all Illinois discharges into Lake Michigan. Both the MSD suit and Scott's suit maintained that U.S. Steel's discharges into the lake would result in deterioration of the water quality.

Other Illinois steel plants discharge to the lake, or to waterways emptying into the lake, and Scott hints that he plans action against them. "This breakthrough will serve as a model for future legal battles by this office," he says.

Scott is also seeking permission from the Supreme Court to sue the city of Milwaukee, which he charges is not sufficiently treating its wastes and is adding to Illinois' pollution.